

NEW SPECIES OF PHYCITINAE (LEPIDOPTERA, PYRALIDAE) FROM TEXAS, WITH DESCRIPTION OF A NEW GENUS

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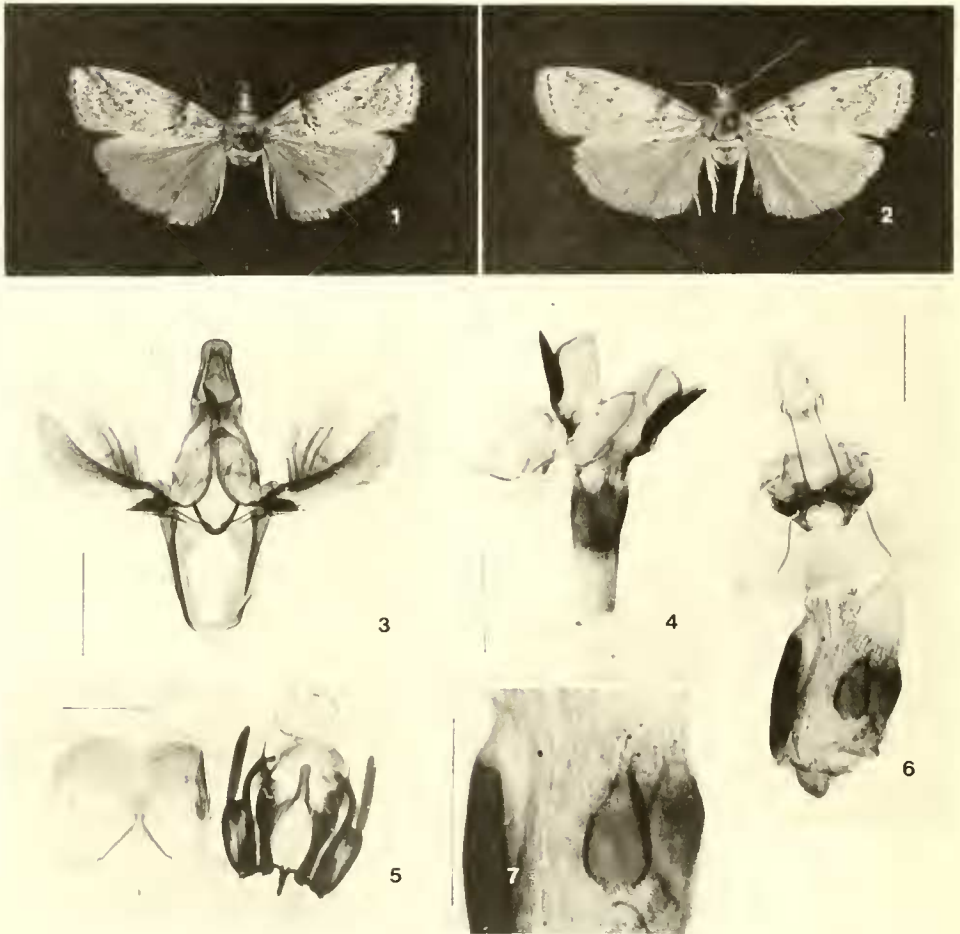
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Abstract.—*Meroptera anaimella*, *Melitara apicigrammella*, and *Homoeosoma parvalbum* are described. A new genus, *Pseudocabotia*, is described, with *P. balconiensis* described as sole included species. Imagines, wing venation, and male and female genitalia are figured.

The following four new phycitine pyralids have resided for many years in the senior author's collection, but have recently been augmented by additional specimens collected by the junior author. All are known only from examples collected in Texas; the *Meroptera*, *Melitara*, and *Homoeosoma* from the Big Bend region; the *Pseudocabotia* from the Edwards plateau.

Meroptera anaimella Blanchard & Knudson, NEW SPECIES Figs. 1–7

Description.—*Head*: Front and vertex light orange brown. Maxillary palpi light orange brown aigrettes. Labial palpi upcurved, not quite reaching vertex, light orange brown. Antennae simple, pale ochreous dorsally, naked and minutely setose ventrally, male with sinus at base of shaft, containing 5 or 6 short, black, thorn-like processes, scale tuft pale ochreous. Chaetosema present. Collar light orange brown. *Thorax*: Patagia and mesonotum pale ochreous with black scaling anteriorly. *Abdomen*: Pale ochreous lightly sprinkled with black scales. *Forewing*: Ground color whitish ochreous lightly peppered with black scales over median area, mainly near costal margin. Antemedial band outwardly oblique from costa at $\frac{1}{4}$ the distance from base to dorsal margin at $\frac{1}{2}$ the distance from base, consisting of a black outer line, broad at costa, diminishing beyond and not quite reaching dorsal margin, and a black inner line from dorsal margin to cell, separated by ground color. The basal space is suffused with light orange, appearing slightly paler than the remainder of the wing. Discal dots widely separated, black. Subterminal band faint, best defined near costal margin, with an inwardly directed cusp above cell and another over lower fold, weakly dentate between cusps. Outer and inner lines blackish, separated by ground color. Terminal dots confluent. Fringe pale ochreous. *Hindwing*: Pale ochreous, suffused with fuscous along outer margin, fringe whitish ochreous. *Length of Forewing*: Males: N = 8, 10.4–11.8 mm, average 11.0 mm. Females: N = 12, 10.1–12.0 mm, average 11.4 mm. *Male genitalia* (Figs. 3–5): Valva with short triangular clasper, about $\frac{1}{4}$ the length of the valva. Clasper with short spines on posterior surface and a single, larger



Figs. 1-7. *Meroptera anaimella*. Fig. 1, Holotype ♂. Fig. 2, Paratype ♀. Fig. 3, ♂ genitalia, on slide AB 5362 (by ECK), Presidio Co., Texas. Fig. 4, Aedeagus with inflated vesica, same specimen and slide as Fig. 3. Fig. 5, Sclerotization and tufts of 8th abdominal segment, same specimen and slide as Fig. 3. Fig. 6, ♀ genitalia, on slide ECK 845, K-Bar Research Station, Brewster Co., Texas. Fig. 7, Magnification of corpus bursae, showing signa, same specimen and slide as Fig. 6. Segments = 1 mm.

terminal spine. Aedeagus with two equal sized cornuti. *Female genitalia* (Figs. 6, 7): Sterigma with broad well sclerotized plate, bearing well sclerotized lateral arms projecting into ductus bursae. Corpus bursae with longitudinal ridges of scobinations and two opposed heavily scobinate patches.

Holotype (Fig. 1).—♂, Shafter, Presidio Co., Texas, 9-VII-69, genitalia on slide AB 1750, A. & M. E. Blanchard collectors, deposited in the National Museum of Natural History. Paratypes.—Same locality as holotype, 9-IX-69, 1 ♂, 1 ♀; Presidio Co., Texas, Ruidosa Hot Spring, 8-VII-69, 1 ♂, collected by A. & M. E. Blanchard. Brewster Co., Texas, Big Bend Nat'l. Park, Dugout Wells, 13-IX-82, 1 ♀; K-Bar Research Station, 9-VIII-83, 1 ♀; Rio Grande Village, 6-IV-84, 5 ♂, 10 ♀, all collected by E. C. Knudson.

Remarks.—This new species is superficially indistinguishable from *Meroptera*

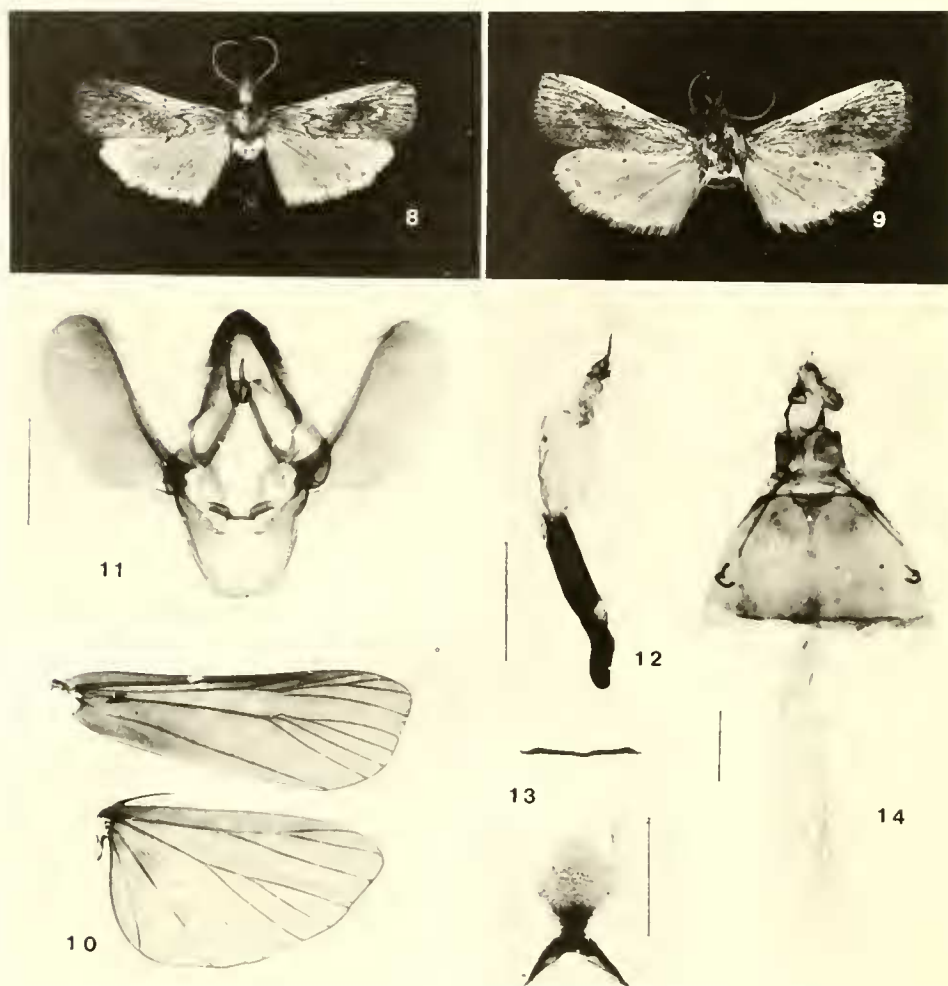
mirandella Ragonot, and quite similar to *M. cviatella* Dyar. From both species, it differs in the shape of the clasper in the male, the larger, differently shaped, sclerotized plates on the corpus bursae, and the more strongly developed lateral arms of the sterigma in the female. The male genitalia are most similar to *M. abditiva* Heinrich, but *abditiva* has unequal sized cornuti in the vesica and it also differs in color and maculation. No other species of *Meroptera* is known from the Big Bend region of Texas, but *cviatella* occurs in the Texas panhandle. The host and early stages are unknown, but moths were collected in areas where both cottonwood and willow occur.

***Melitara apicigrammella* Blanchard & Knudson, NEW SPECIES**

Figs. 8–14

Description.—*Head*: Front gray, each scale narrowly white tipped. Vertex grayish white, darker gray posteriorly. Maxillary palpi squamous, gray dorsally, white ventrally, length equal to eye diameter. Labial palpi porrect, dark gray, exceeding front by $2\frac{1}{2}$ eye diameters. Antennae bipectinate in male, shortly bipectinate in female, flagellum whitish, variably sprinkled with black scales. Collar gray. *Thorax*: Tegulae and patagia gray, mixed with a few white scales, each scale white tipped, mesonotum mainly whitish centrally, dark gray posteriorly. Ventral surface mainly whitish. *Abdomen*: Whitish, with a few black scales dorsally. First abdominal segment with white, paired lateral scale tufts. *Forewing*: Ground color light gray, heavily suffused with fuscous below costal margin over median area. Costal margin mainly grayish white, with scattered black scales. Antemedial line black, margined inwardly with white, sharply produced into two outwardly directed points above, and over cell and again produced to a longer outwardly directed point over median vein. Below median vein, the antemedial line forms a broad, inwardly directed point over lower fold. Single elongate discal spot obscured by fuscous suffusion. Subterminal band indistinct, angled inwardly from costal margin and moderately dentate, consisting of a pale gray central line flanked by dark gray inner and outer lines. Veins lightly black scaled over outer $\frac{1}{3}$ of wing. Terminal intervenular dashes black, conspicuous. Fringe gray. Undersurface grayish, terminal dashes weakly indicated. *Hindwing*: White, lightly suffused with fuscous at apex in male; more heavily suffused in female. Terminal line narrow, fuscous. Fringe whitish. *Venation* (Fig. 10): Hindwing: Sc and Rs stalked for $\frac{1}{3}$ their lengths, beyond cell; M3 and Cu1 stalked. *Length of Forewing*: Males: N = 11, 11.3–14.6 mm, average 13 mm. Females: N = 11, 13.3–17.7 mm, average 15.6 mm. *Male genitalia* (Figs. 11–13): Bifid apical processes of gnathos slender and pointed. Anellus with base well sclerotized, lateral arms weakly sclerotized. Aedeagus moderately long (length $7\times$ width), vesica unarmed. *Female genitalia* (Fig. 14): Ostium funnel shaped, membranous. Ductus bursae and corpus bursae membranous, without signum. Holotype.—(Fig. 8). ♂, Terrel Co., Texas, Sander-son, 28-IX-80, collected by E. Knudson and deposited in the National Museum of Natural History. Paratypes.—Same data as holotype, 7 ♂; Brewster Co., Texas, Big Bend Nat'l. Park, K-Bar Research Station, 9-VIII-83, 1 ♀; Big Bend Nat'l. Park, Rio Grande Village, 6-IV-84, 2 ♂, 9 ♀, all collected by E. Knudson. Big Bend Nat'l. Park, Chihuahuan desert near Nugent Mt., 1-V-72, 2 ♂; Big Bend Nat'l. Park, Dugout Wells, 1 ♀, collected by A. & M. E. Blanchard.

Remarks.—This new *Melitara* is easily distinguished from the other species in



Figs. 8-14. *Melitara apicigrammella*. Fig. 8, Holotype ♂. Fig. 9, Paratype ♀, K Bar Research Station Brewster Co., Texas. Fig. 10, Wing venation of ♂ paratype, on slide ECK 830 (by AB), same data as holotype. Fig. 11, ♂ genitalia of paratype, on slide ECK 827, same data as holotype. Fig. 12, Aedeagus and inflated vesica of paratype, on slide ECK 838, same data as holotype. Fig. 13, Sclerotization of 8th abdominal segment of ♂ paratype, on slide AB 5359, near Nugent Mt., Brewster Co., Texas. Fig. 14, ♀ genitalia of paratype, on slide ECK 849, Rio Grande Village, Big Bend Nat'l. Park, Texas. Segments = 1 mm.

the genus by features of the maculation, particularly the well defined black terminal dashes and obscure subterminal band and discal spot, which are well defined in the other species. In superficial appearance, it is more apt to be confused with *Olycella subumbrella* (Dyar), but differs in the labial palpi, which are of the *Melitara* type. The male genitalia differ from the other species of *Melitara*, chiefly in the shape of the gnathos and the longer, more slender aedeagus. It also differs in the sclerotization of the 8th abdominal segment. The female genitalia are not significantly different from *Melitara dentata* (Grote). The forewing venation differs slightly in that Rs and Sc are stalked beyond cell rather than approximate.

***Pseudocabotia* Blanchard & Knudson, NEW GENUS**

Type-species.—*Pseudocabotia balconiensis* Blanchard & Knudson.

Description.—*Head*: Front conical. Maxillary palpi squamous, ascending to $\frac{1}{2}$ eye diameter. Labial palpi alike in both sexes, porrect, slightly downcurved, exceeding front by $1\frac{1}{2}$ eye diameters. Tongue well developed. Antennae simple, minutely setose ventrally, base of flagellum unmodified. Chaetosema present. *Forewing* (Fig. 17): Smooth, 11 veins; R_2 from cell, shortly before upper outer angle; R_3 and R_4 united and anastomosed with R_5 at half its distance beyond cell; otherwise as in *Cabotia* Ragonot. *Hindwing* (Fig. 17): As in *Cabotia*. *Male genitalia* (Figs. 18–20): Uncus subtriangular, lightly setose. Gnathos undivided, elongate, apex pointed. Transtilla incomplete. Valves simple, narrow, costa lightly sclerotized, clasper absent. Anellus V shaped, well sclerotized. Aedeagus sinuate, vesica lightly scobinate. Eighth abdominal sternite represented in Fig. 20. Scale tufts, if originally present, not preserved in dissection. *Female genitalia* (Fig. 21): Apophyses anteriores equal in length to apophyses posteriores. Ostium bursae narrowly funnel shaped, membranous. Ductus bursae membranous, half the length of corpus bursae. Corpus bursae with diverticulum posteriorly, bearing ductus seminalis. Signa well developed, consisting of vertical rows of thornlike spines and a patch of similar spines at junction of diverticulum and corpus bursa.

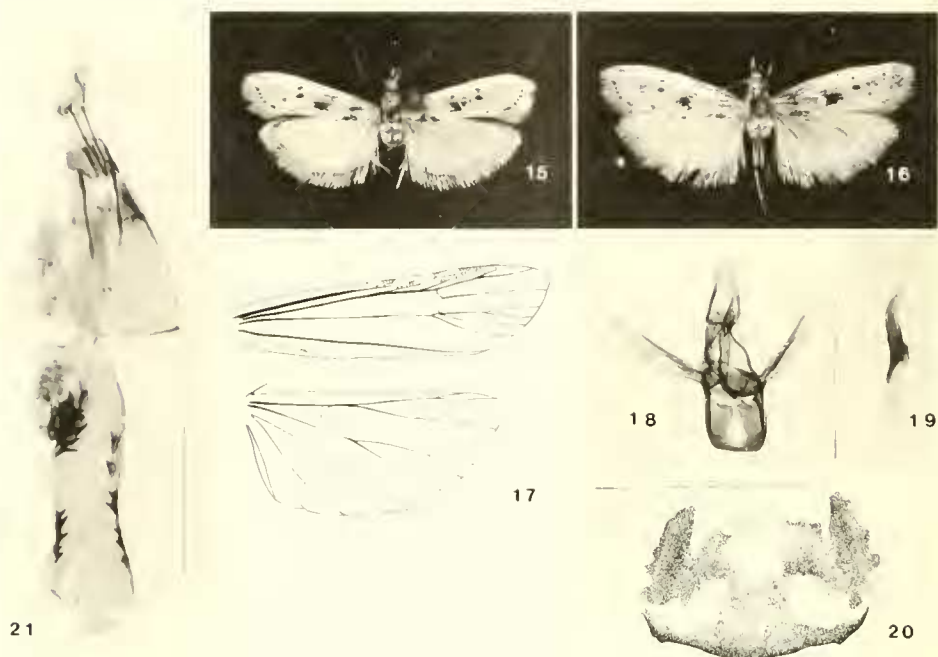
Remarks.—Based on venational characteristics, this new genus falls into Heinrich's group 2, division A of New World Phycitinae, but cannot be further assigned (Heinrich, 1956). The female genitalia are distinctive but similar to *Cabotia* Ragonot. The male genitalia differ from those of *Cabotia* in the shape of the gnathos and the absence of a clasper, in this being quite close to *Harnocha* Dyar, which differs in forewing venation. *Cabotia* has different maxillary palpi, which are aigrettes, resting in grooves in the labial palpi. The female of *Harnocha velassa* Dyar is still unknown.

***Pseudocabotia balconiensis* Blanchard & Knudson, NEW SPECIES**

Figs. 15–21

Description.—*Head*: Front and vertex pale ochreous. Maxillary palpi whitish, labial palpi brown laterally, whitish medially. Antennae brown scaled dorsally. *Thorax*: Patagia and mesonotum ochreous. Whitish beneath. *Forewing*: pale ochreous, costa broadly margined with white. Antemedial line indicated by a black dorsal spot $\frac{1}{6}$ the distance from base and obscure black scaling above, extending to, but not beyond cell. Near middle of wing is a prominent black spot below cell. Discal spot double, the lower spot more prominent. Subterminal line obscure, whitish, margined by inner row of faint black spots, oblique from near apex to dorsal margin at outer $\frac{1}{4}$. Terminal spots black, well defined, not reaching apex. Fringe pale ochreous. *Hindwing*: Shining pale ochreous, with narrow fuscous terminal line. Fringe pale ochreous. *Length of forewing*: Males: N = 2, 7.1 and 8.3 mm., Females: N = 1, 6.4 mm. *Male and female genitalia*: As described for genus.

Holotype.—♀, Kerr Co., Texas, 10 miles west of Hunt, 4-IX-81, with genitalia slide ECK 215, collected by E. Knudson and deposited in the National Museum of Natural History. Paratypes.—Same locality as holotype, 25-VIII-81, 1 ♂, collected by E. Knudson. Comal Co., Texas, Guadalupe River near New Braunfels,



Figs. 15-21. *Pseudocabotia balconiensis*. Fig. 15, Holotype ♀. Fig. 16, Paratype ♂, same locality as holotype, genitalia on slide ECK 160, E. C. Knudson coll. Fig. 17, Wing venation of ♂ paratype, on slide AB 5363, Comal Co., Texas. Fig. 18, ♂ genitalia of paratype, on slide AB 3098, same specimen as Fig. 17. Fig. 19, Aedeagus of ♂ paratype, on slide AB 3098, same specimen as Fig. 17. Fig. 20, Sclerotized 8th abdominal sternite, same slide and specimen as Fig. 17. Fig. 21, ♀ genitalia of holotype. Segments = 1.0 mm except Fig. 20 = 0.5 mm.

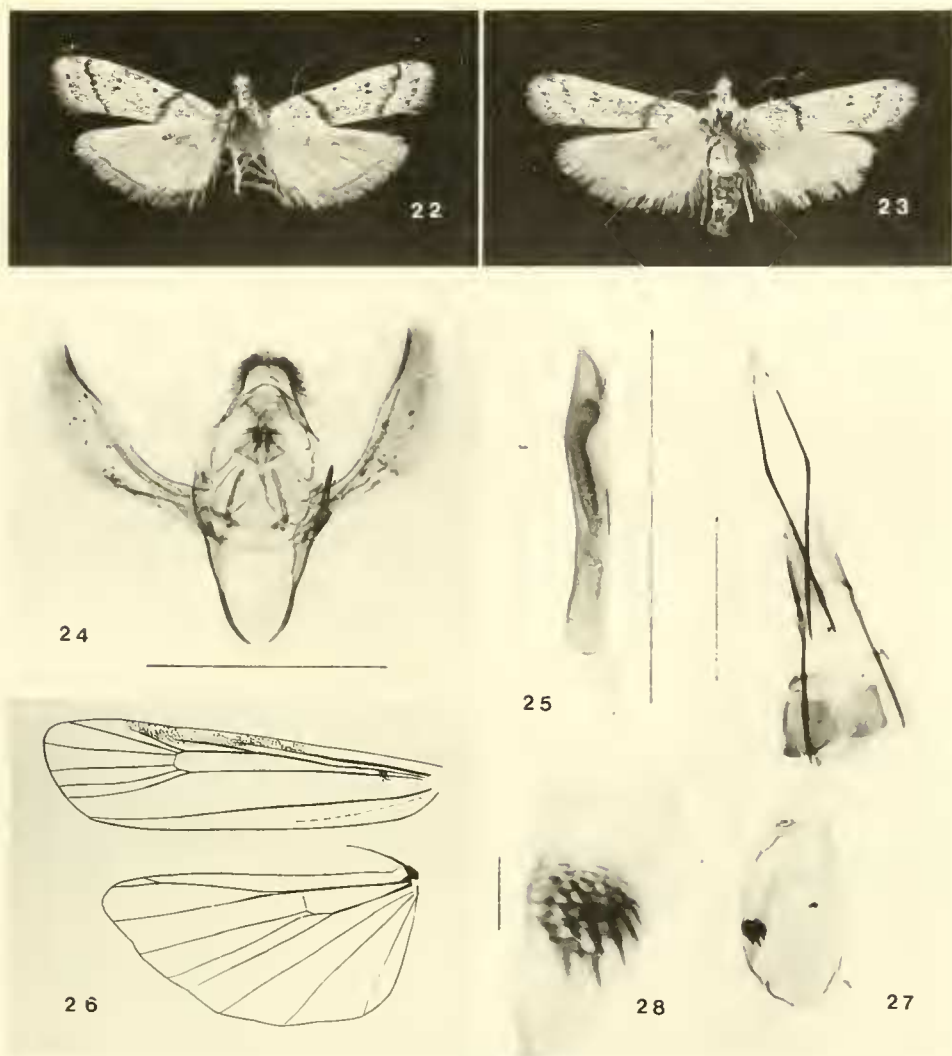
12-III-72, 1 ♂, genitalia slide AB 3098, wing venation AB 5369, collected by A. & M. E. Blanchard.

Remarks.—This new species is known only from areas adjacent to the upper Guadalupe River on the Edwards plateau in central Texas. The name of the species refers to the Balconian biotic province where it occurs. The female was selected as holotype because of its distinctive genitalia.

***Homoeosoma parvalbum* Blanchard & Knudson, NEW SPECIES**

Figs. 22-28

Description.—*Head*: Front pale fuscous; vertex white. Labial palpi upcurved, ascending to slightly above vertex, whitish ventrally and medially, light fuscous laterally. Maxillary palpi filiform, whitish. Antennae pale fuscous, lightly pubescent in male. *Thorax*: Whitish with a few scattered black scales. *Abdomen*: Whitish, shining. *Forewing*: Ground color white with evenly distributed peppering of black scales. Antemedial line prominent, black, angled outwardly from costa at basal $\frac{1}{5}$ to dorsal margin at basal $\frac{1}{3}$. Discal spots separate, black. Postmedial line well defined, black, parallel to termen. Terminal line indicated by 4 or 5 black dots from just above tornus, to beyond mid-termen, but not reaching apex. Fringe pale fuscous. *Hindwing*: Whitish, with fuscous terminal band. Fringe whitish, with



Figs. 22–28. *Homoeosoma parvalbum*. Fig. 22, Holotype ♂. Fig. 23, Paratype ♀, Dugout Wells, Brewster Co., Texas. Fig. 24, ♂ genitalia, aedeagus removed, of holotype, from slide ECK 851. Fig. 25, Aedeagus of holotype, from slide ECK 851. Fig. 26, Wing venation of paratype ♂, on slide AB 2776, same data as Fig. 23. Fig. 27, ♀ genitalia of paratype, Rio Grande Village, Brewster Co., Texas, on slide ECK 861. Fig. 28, Much enlarged signum from same slide as Fig. 27. Segments = 1.0 mm except Fig. 28 = 0.1 mm.

darker median band. *Wing venation* (Fig. 26): Forewing with 9 veins, M_2 and M_3 united, venation otherwise like other species of *Homoeosoma* Curtis. *Length of forewing*: Male: (N = 1), 7.4 mm. Females: (N = 8) 6.6–7.4 mm, average 6.9 mm. *Male genitalia* (Figs. 24–25): Uncus broadly rounded. Gnathos triangulate, produced to sharp points at apical and lateral processes. Vinculum with small lateral arms. Aedeagus (Fig. 25), with vesica scobinate, without cornuti. Eighth abdominal segment without scale tufts, sternite with small median thornlike process.

Female genitalia (Figs. 27–28): Papillae anales unsclerotized; ostium bursae simple, unsclerotized; ductus bursae membranous; corpus bursae membranous, with signum (Fig. 28), a patch of thornlike spines.

Holotype (Fig. 22).—♂, Brewster Co., Texas, Big Bend Nat'l. Park, Hot Springs, 4-IV-84, genitalia on slide ECK 851, collected by E. C. Knudson and deposited in the National Museum of Natural History. Paratypes.—All from Big Bend Nat'l. Park, Texas. Dugout Wells, 13-IX-71, 1 ♂, 3 ♀; K-Bar Research Station, 16-IX-71, 1 ♀; Chihuahuan Desert near Nugent Mt., 17-IX-71, 1 ♀; all collected by A. & M. E. Blanchard. Rio Grande Village, 6-IV-84, 3 ♀, collected by E. C. Knudson.

Remarks.—This new species differs from all other species of *Homocosoma* in the forewing venation, in which M_2 and M_3 are united, rather than stalked. This proved constant in two wing preparations. Since all the other characters of the insect including both male and female genitalia are like those of *Homocosoma*, it did not seem necessary to create a new genus, based only on a minor venational difference. The small size and conspicuous maculation should also serve to distinguish this species from all other North American species of *Homocosoma*. The male genitalia are most similar to *Homocosoma imitator* Heinrich, but differ in the shorter, more broadly rounded uncus, and the more elongate, tapered vinculum. The female genitalia are hardly distinguishable from other species with unsclerotized papillae anales.

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